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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/865,236	05/25/2001	Yiping Fan	US018070	2624

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BRIARCLIFF MANOR, NY 10510

EXAMINER

AHN, SAM K

ART UNIT	PAPER NUMBER
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2637

DATE MAILED: 11/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/865,236	FAN, YIPING	
	Examiner	Art Unit	
	Sam K. Ahn	2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 13-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 09/21/05 have been fully considered but they are not persuasive. Applicants argue that Walley does not teach all the limitations claimed. Applicants argue that the claimed limitation of "an amplifier" is 340 in Fig.2. However, the examiner respectfully disagrees. As stated in the previous Office action, the examiner has indicated that the amplifier is 343(I) and 343(Q) in Fig.2 (note col.4, lines 60-61, wherein the elements are referred to as programmable gain amplifiers). Hence, Walley teaches the amplifier 343(I) and 343(Q) directly connected to first and second lowpass analog-to-digital converters 362(I) and 362(Q).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., amplifier connected to two A/D converters to save on power consumption and production cost, and instead of including mixers and filters before the sampling of the IF signal) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-4,7,10,13 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Walley et al. USP 6,301,287 B1 (Walley).

Regarding claims 1,13 and 15, Walley discloses a method and an apparatus of a receiver [see Fig.2] comprising
a radio frequency mixer [341(I) and 341(Q)],
an intermediate frequency filter [342(I) and 342(Q)] having a lowpass filter;
an amplifier [343(I) and 343(Q)];
a first lowpass analog-to-digital converter [362(I)] directly connected to said amplifier;
a second lowpass analog-to-digital converter [362(Q)] directly connected to said amplifier;
and a digital signal processor [364 for further processing] connected to said first and second lowpass analog-to-digital converters. [note col.4, line 35 – col.5, line 57]

Regarding claim 2, Walley teaches all subject matter claimed, as applied to claim 1. Walley further teaches wherein said receiver forms a part of a communications device. [note col.1, line 10 – col.2, line 38]

Regarding claim 3, Walley teaches all subject matter claimed, as applied to claim 2. Walley further teaches wherein said communications device comprises a cellular phone. [see Fig.2 and note col.2, lines 47-50 wherein the figure is found in a handset]

Regarding claim 4, Walley teaches all subject matter claimed, as applied to claim 2. Walley further teaches wherein said communications device comprises a wireless device. [see Fig.2 and note col.2, lines 47-50 wherein the figure is found in a handset]

Regarding claim 7, Walley teaches all subject matter claimed, as applied to claim 1. Walley further teaches a radio frequency filter, an intermediate frequency filter [342(I) and 342(Q)].

Regarding claim 10, Walley teaches all subject matter claimed, as applied to claim 1. Walley further teaches said amplifier comprises a variable gain amplifier [343(I) and 343(Q)]. (note col.4, lines 35-61)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walley et al. USP 6,301,287 B1 (Walley) in view of Eidson et al. USP 6,256,477 B1 (Eidson).

Regarding claims 5 and 6, Walley teaches all subject matter claimed, as applied to claim 2. As described previously, Walley teaches a wireless receiver detecting and demodulating spread spectrum signals. However, Walley does not explicitly disclose wherein the system may comprise a CDMA or TDMA device. Eidson also teaches a receiver detecting and demodulating spread spectrum signals (see Fig.8B), and further teaches wherein the receiver may be implemented in a CDMA and TDMA networks requiring a CDMA and TDMA device. Therefore, it would have been obvious to one skilled in the art at the time of the invention to implement Walley's receiver in a CDMA and TDMA networks for the purpose of improving signal reception by generating signal quality values, as taught by Walley. (note col.2, lines 20-37)

4. Claims 8,9,11 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walley et al. USP 6,301,287 B1 (Walley) in view of Wu et al. USP 6,639,946 B2 (Wu).

Regarding claims 8 and 9, Walley teaches all subject matter claimed, as applied to claim 7 or 1. Walley, as described previously, teaches an intermediate frequency filter [342(I) and 342(Q)] to provide channel selectivity (note col.4,

lines 35-61). However, Walley does not explicitly teach wherein said filter comprises a surface acoustic wave filter. Wu teaches surface acoustic wave (SAW) filter (20 in Fig.2) coupled to amplifier then to digitize the signal. Therefore, it would have been obvious to one skilled in the art at the time of the invention to modify Walley's system by using SAW filter in intermediate frequency filter [342(I) and 342(Q)] for the purpose of properly digitizing the signal received wherein the SAW filter provides enough bandwidth and further does not introduce significant noise or distortion to intermediate frequency signals, as taught by Wu. (note col.1, line 60 – col.2, line 23)

Regarding claims 11 and 16, Walley teaches all subject matter claimed, as applied to claim 1 or 15. Walley, as described previously, teaches said first and second lowpass analog-to-digital converters. [362(I) and 362(Q)] However, Walley does not explicitly teach wherein said ADCs comprise Sigma Delta ADCs. Wu teaches converting analog signal to digital by implementing Sigma Delta ADCs. (note col.1, lines 13-57) Therefore, it would have been obvious to one skilled in the art at the time of the invention to implement digitizing analog signals using Sigma Delta ADCs for the purpose of supporting high speed input signals as Sigma Delta ADCs run at higher clock speed, as taught by Wu. (note col.1, lines 13-57)

5. Claims 12 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walley et al. USP 6,301,287 B1 (Walley) in view of Conklin et al. USP 6,587,530 B1(Conklin).

Regarding claims 12 and 17, Walley teaches all subject matter claimed, as applied to claim 1 or 13. Walley, as explained previously, teaches analog to digital converters. However, Walley does not explicitly teach wherein the function of ADCs may be implemented using a flash-type ADC. Conklin teaches receiving signal and digitizing the signal by using a flash-type ADC. (see 63 in Fig.5D) Therefore, it would have been obvious to one skilled in the art at the time of the invention to modify Walley's ADC and implement a flash-type ADC for the purpose of increasing processing speed as the flash-type ADC provides n number of outputs.

6. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Walley et al. USP 6,301,287 B1 (Walley) in view of Chan et al. USP 6,650,264 B1.

Regarding claim 14, Walley teaches all subject matter claimed, as applied to claim 13. Although Walley teaches sampling a first channel [I at 362(I)] and a second channel [Q at 362(Q)], Walley does not explicitly teach sampling the second channel a quarter of the intermediate frequency carrier period after said sampling of said first channel.

Chan teaches, in the same field of endeavor, sampling two channels (I and Q, see Fig.3) sampling the first channel at f_s , and further teaches sampling the

second channel (Q) a quarter of the intermediate frequency carrier period after said sampling of said first channel (delayed by one-fourth cycle, note col.4, line 3). Therefore, it would have been obvious to one skilled in the art at the time of the invention to sample with the different sampling time for the two channels in Walley's system for the purpose of sampling complex signals of I and Q channels.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

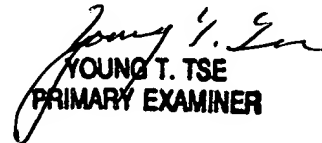
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Ahn whose telephone number is (571) 272-3044. The examiner can normally be reached on Monday-Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sam K. Ahn
11/14/05


YOUNG T. TSE
PRIMARY EXAMINER